

REMARKS

The claims have been amended to eliminate multiple dependency and to place them in better form for U.S. practice. Favorable action on the application is solicited.

Respectfully submitted,

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MIHAN et al. et al., OZ 0050/49854

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CLEAN VERSION OF ALL CLAIMS

1. A process for copolymerizing ethylene or propylene ~~with one another~~ or with other olefinically unsaturated compounds, which comprises carrying out the polymerization in the presence of a catalyst system which comprises the following components:

A) a complex of a transition metal with one or two substituted or unsubstituted 1,3,5-triazacyclohexane ligands ~~and corresponding ligands in which one or more of the ring nitrogen atoms are replaced by phosphorus or arsenic atoms, and~~

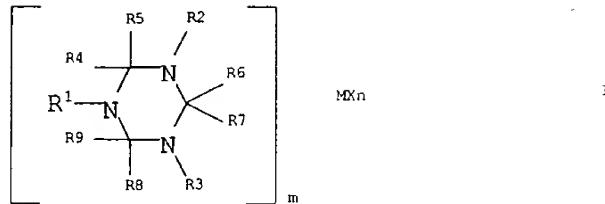
B) if desired one or more activator compounds.

2. A process for copolymerizing ethylene or propylene ~~with one another~~ ~~together~~ or with other olefinically unsaturated compounds at temperatures from 20 to 300°C under pressures from 5 to 4000 bar, which comprises the following steps:

a) contacting a complex of a transition metal with one or two substituted or unsubstituted 1,3,5-triazacyclohexane ligands (A) with at least one activator compound (B),

b) contacting the reaction product from step (a) with the olefinically unsaturated compounds under polymerization conditions.

3. (amended) A process as claimed in claim 1, wherein ~~a~~ <sup>Component (A) is</sup> compound of the formula I



in which ~~the variables have the following meanings:~~

M a transition metal of groups 4 to 12 of the periodic table,  
~~are~~ <sup>organic</sup> R<sup>1</sup>-R<sup>9</sup> hydrogen or organosilicon or ~~organic~~ substituents with 1 to  
30 C atoms, it being possible for two geminal or vicinal R<sup>1</sup>  
to R<sup>9</sup> radicals also to be connected to form a five- or  
six-membered ring, and it being possible, when m is 2, for  
an R<sup>1</sup>-R<sup>9</sup> radical of in each case one triazacyclohexane ring  
to form together with a substituent on the other  
triazacyclohexane ring a bridge between the two rings,

X ~~is~~ fluorine, chlorine, bromine, iodine, hydrogen, C<sub>1</sub>-C<sub>10</sub>-alkyl,  
C<sub>6</sub>-C<sub>15</sub>-aryl or alkylaryl with 1 to 10 C atoms in the alkyl  
radical and 6 to 20 C atoms in the aryl radical,  
trifluoroacetate, BF<sub>4</sub><sup>-</sup>, PF<sub>6</sub><sup>-</sup>, or bulky noncoordinating  
anions,

m is 1 or 2,

n ~~is~~ a number from 1 to 4 which corresponds to the oxidation

state of the transition metal M

~~is employed as component (A).~~

4. (amended) A process as claimed in claim 1, wherein M is a transition metal of group 6 of the periodic table.

5. (amended) A process as claimed in claim 1, wherein mixtures of ethylene with C<sub>3</sub>-C<sub>8</sub>- $\alpha$ -olefins are employed as monomers.

6. (amended) A process as claimed in claim 1, wherein an aluminoxane is employed as activator compound (B).

7. (amended) A process as claimed in claim 1, wherein a borane or borate having at least 2 substituted aryl radicals is employed as activator compound (B).

8. (amended) A process as claimed in claim 3, wherein at least one of the radicals R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> is different from the other radicals in this group.

9. (amended) A catalyst for polymerizing olefins, comprising at least one transition metal complex (A) as defined in claim 1 and a support material and, if desired, one or more activator compounds (B).

10. A process for polymerizing or copolymerizing olefins wherein the polymerization or copolymerization is carried out in the presence of a catalyst as claimed in claim 9.

11. ~~A transition metal complex of the formula I as defined in claim 1, wherein at least one of the radicals R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> is~~

*Completely  
merged  
as per claim 3, except R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> are  
different*

different from the other radicals in this group.

12. A transition metal complex of the formula I as defined in claim ~~3~~<sup>11</sup>, wherein m is 2 and one radical R<sup>1</sup>-R<sup>9</sup> of one triazacyclohexane ring together with one of these substituents of the other triazacyclohexane ring forms a bridge between the two rings.

13. (amended) The use of a complex of a transition metal as defined in claim 1 in the copolymerization of ethylene or propylene together or with other olefinically unsaturated compounds.

14. Process of claim 3 where m=2, one radical R<sup>1</sup>-R<sup>9</sup> of one TCH ring together with one of these substituents of the other TCH ring forms a bridge between two rings